

Matthew Karp

In my early teens, my passion for mechanics and technology took root as I watched with fascination the F-16 fighter jets that flew over my house almost daily. I was inspired to enlist in the New Jersey Air National Guard as a turbofan technician after graduating high school in 2008. I had the opportunity to work with the Federal Aviation Administration (FAA) over the summer of 2013 with a research grant from Rutgers University. I worked alongside the fire safety group who were developing a non-toxic, halon-free, fine-mist portable fire extinguisher for commercial aviation. In 2014, I received a Graduate Assistant position working in conjunction with the FAA and Rutgers University. My research focused on the flammability limits of a premixed lithium-ion battery's thermal runaway vent-gas, in air, and the inerting effects of Halon 1301. This research formed the basis of my Master's Thesis. In 2016, I completed my graduate work and received my M.S. in Mechanical Engineering degree from Rutgers University. I stayed with the FAA as a general research engineer but moved on to work in new areas. Where my main focus has been centered on cargo smoke detection certification standardization and studying the results of lithium ion batteries that go into thermal runaway.